

Curriculum Vitae

Anton Dzhamay

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Education

- **Ph.D.** Mathematics, Columbia University, May 2000 (Thesis advisor: Professor *I. Krichever*)
- **M.Phil.** Mathematics, Columbia University, May 1997
- **M.A.** Mathematics, Columbia University, October 1994
- **Diplom** Applied Mathematics, Moscow Institute of Electronics and Mathematics, June 1993;
(*with Honors*)

Awards and Honors

- Carl B. Boyer Memorial Fellowship, 1999–2000
- Columbia University Department of Mathematics Fellowship, 1993–1997

Work Experience

2000–present Assistant Professor, Department of Mathematics, The University of Michigan, Ann Arbor

Research Interests

Integrable hierarchies, algebro-geometric methods in the theory of soliton equations, Whitham hierarchies, WDVV equations and Frobenius manifolds, isomonodromy equations, quantum cohomology.

Publications

- A. Dzhamay, *Real-normalized Whitham hierarchies and the WDVV equations*, Internat. Math. Res. Notices, (**21**):1103–1130, 2000
- A. Dzhamay, E. Vorob'ev, “*Infinitesimal weak symmetries of non-linear differential equations in two independent variables*”, J. Phys. A: Math. Gen. **27**:5541–5549, 1994.

Talks

- “*Simple analytic curves and dispersionless integrable hierarchies*”, Integrable Systems Seminar, March 2002, Michigan State University
- “*Kontsevich’s proof of Witten’s conjecture*”, Moduli Spaces Seminar, October 2001, University of Michigan
- “*Algebro-geometric methods in the theory of soliton equations*”, Moduli Spaces Seminar, March 2001, University of Michigan
- “*Frobenius manifolds*”, “Physics” Seminar, October 2000, University of Michigan
- “*Whitham hierarchies, the WDVV Equations, and conformal maps*”, Differential Equations Seminar, October 2000, University of Michigan
- “*Higher-genus Whitham hierarchies and solutions to the WDVV equations*”, 941st AMS Meeting, March 1999, Urbana, IL

Professional Activities

- Member of **AMS**, **MAA**
- Reviewer for **Mathematical Reviews**

Teaching Experience

- *The University of Michigan, Ann Arbor*:
 - **Course Coordinator** Math 215 (Calculus III), 2002–2003, 2003–2004
 - **Instructor** Math 116 (Calculus II), Math 215 (Calculus III), Math 216 (Ordinary Differential Equations), Math 450 (Applied Mathematics for Engineers), Math 451 (Advanced Calculus), Math 454 (Partial Differential Equations and Boundary Value Problems)
 - **Talks**
 - ◊ “*Using instructional technology in the freshman–sophomore program at the University of Michigan*” (joint with *Gavin LaRose*), Seminar on Teaching Mathematics, January 2003, University of Michigan

- **Projects**
 - ◊ Designed tutorials for Math 215 **Maple**-based computer labs
 - ◊ Updated and redesigned **Maple**-based in-class demonstrations for Math 215. Designed and prepared (sometimes jointly with undergraduate students) a large set of new demonstrations
 - ◊ Worked on **NSF**-funded project to develop online testing and associated assessment and tutorial modules
- *Columbia University*
 - **Instructor** Intermediate Algebra, College Algebra and Analytic Geometry, Calculus III, Calculus IV, Linear Algebra, Ordinary Differential Equations
 - **Teaching Assistant** Calculus I–II (including **Mathematica**-based recitation sections), Calculus III, Calculus IV, Ordinary Differential Equations, Partial Differential Equations, Linear Algebra, Digital Logic, Introduction to Computer Programming using **C**

Service Freshman–Sophomore Program Committee (ex-officio), 2002–2003, 2003–2004.

Seminars Organized and gave talks on graduate students seminars (Columbia University) on the following topics:

- Quantum cohomology, the WDVV equations, and Frobenius manifolds
- Intersection theory on the moduli space of curves and Kontsevich’s proof of the Witten conjecture
- Equivariant cohomology
- Moduli space of stable pairs
- The Yang–Mills equations over Riemann Surfaces

Undergraduate Research Leader of summer undergraduate research projects:

- “*Analytic deformations of multiply connected domains*”, Summer 2000, Columbia University
- “*Application of the methods from the theory of solitons to construction of surfaces with orthogonal coordinate nets*”, Summer 1999, Columbia University

Summer Schools • Participant of a “*Gauge Theory and the Topology of Four-Manifolds*” IAS/Park City Mathematics Institute Summer School, 1994

Computer Skills • *Computer algebra systems:* **Maple**, **Mathematica**, **Matlab**; developed **Mathematica** package for calculating classical, weak, and infinitesimal symmetries of non-linear PDEs

• *Markup languages:* **TeX**, **LaTeX**, **HTML**

• *Programming languages:* **C**, **C++**, **Java**, **Perl**, **JavaScript**; wrote a **C** program for calculating Alexander, Jones, Conway, and HOMFLY polynomials of knots and links

References

- H. Bass (The University of Michigan, Ann Arbor)
- A. Bloch (The University of Michigan, Ann Arbor)
- I. M. Krichever (Columbia University)
- P. D. Miller (The University of Michigan, Ann Arbor)
- H. C. Pinkham (Columbia University)
- A. Uribe (The University of Michigan, Ann Arbor)